



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.



Published to advance the Science of cold-blooded vertebrates

PROTECTIVE COLORATION AND HABITS IN THE KELP-FISH

Heterostichus rostratus.

This blenny is one of the fishes characteristic of the belt of gigantic kelp (*Macrocystis*) which, along the coast of Southern California, grows in profuse beds in about ten fathoms of water. In form and color, and even in habits, the fish so closely resembles the "leaves" of the kelp as to be scarcely distinguishable from them. The thin body has the approximate form and proportions of the kelp thalli, and the long vertical fins of the fish might pass for their crinkled edges. While not as large as the average blade of kelp, this species is much larger than any of its near relatives. The usual color developed is the counterpart of that of the kelp. These peculiarities of form, size and color, considered by themselves, might well be construed as concealing protective, but when the correlated habits of the fish are taken into account, even the most skeptical could hardly deny their protective significance.

These blennies live along the great strands of kelp, one or two sometimes accompanying a plant, when, loosened from its anchorage, it floats toward the shore. The female, according to Holder, (1) constructs a nest in the kelp during the process of laying the eggs, which the male fearlessly guards. They feed upon the

invertebrates (chiefly crustaceans) of the kelp, and seldom wander even a few feet from the plant. They have even been observed (first by Holder, whose observation the writer has independently confirmed) poised vertically downward about the kelp, gently swaying their bodies back and forth, as the currents wave the blades of kelp.

CARL L. HUBBS,
Chicago, Ill.

(1) Holder, *Am. Nat.*, 41, 1907, p. 587, fig.; Holder & Jordan, *Fish Stories* (Holt & Co.), 1909, chap. 29; Holder, *Bull. U. S. Fish Comm.* 28, 1910, p. 1140.

A CASE OF HERMAPHRODITISM IN THE WHITE PERCH, *Morone americana* (Gmelin).

In April 1919, Mr. John W. Titcomb, Fish Culturist of the New York State Conservation Commission, received from Mr. H. H. Abell of Poughkeepsie, New York, the reproductive organs of a hermaphroditic white perch, *Morone americana*. Through the courtesy of Mr. Titcomb who sent the specimen to the State Museum, the following notes are presented.

Cases of hermaphroditism have been recorded in individuals representing many genera of Teleostean fishes. The cod, *Gadus*, figures frequently in accounts of this kind and several species of *Serranus* are known to be regularly hermaphroditic and capable of self-fertilization. G. B. Howes, (1) who studied the cod, cites several examples, in one—a case described by Weber—a testis was borne at the posterior end of each ovary; in other specimens a single testis developed in conjunction with either a right or left ovary. H. C. Williamson (2) examined two specimens of the cod and found in one a small testis attached to the anterior extremity of each ovary; in the second case a single ovary of large size occupied the right side, a normal testis the left.